Wisconsin Department of Natural Resources
Fishery Information Sheet

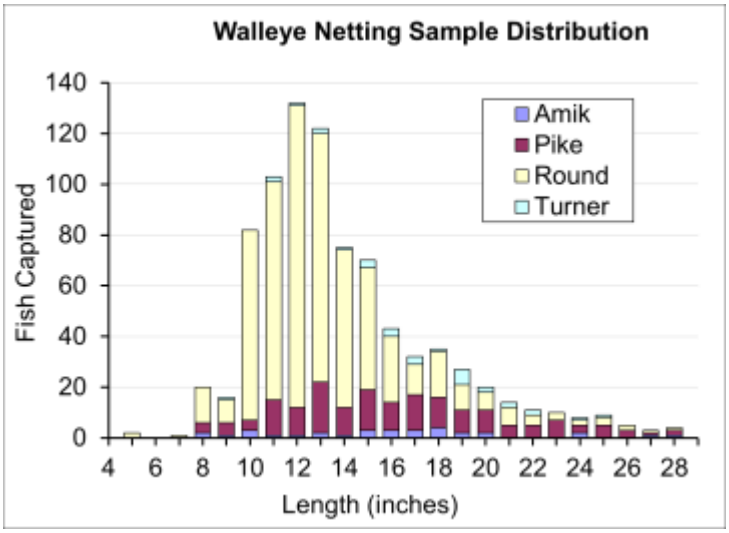
LAKE: Pike Lake Chain of Lakes **COUNTY:** Price and Vilas **YEAR:** 2017 – 2018

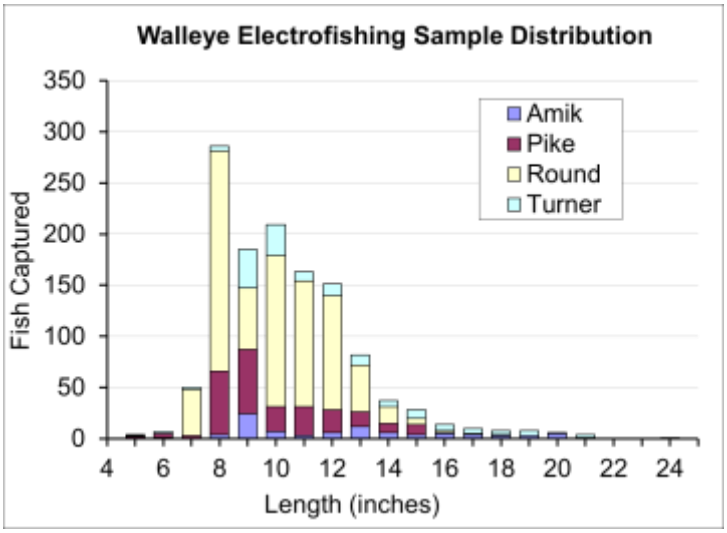
Located in the headwaters of the South Fork Flambeau River, the Pike Lake Chain of Lakes is formed by the natural and navigable connections of Amik, Pike, Round, and Turner lakes, whose attributes are summarized below. A fixed-crest dam at the outlet of Round Lake maintains water level in the Chain about two feet above the natural condition with no capability to manipulate reservoir level and discharge.

Lake	Surface Acres	Shoreline Miles	Maximum Depth (feet)	Average Depth (feet)	Percent < 3 feet deep	Substrate			
						Rubble	Gravel	Sand	Muck
Amik	224	5.2	8	5	11			x	xxx
Pike	806	10.9	17	11	6	3%	27%	50%	20%
Round	726	5.1	24	16	6	1%	55%	42%	2%
Turner	149	2.6	12	8	9	x	x	xx	xx
Combined	1905	23.8	24	12	7	Note: x, xx, and xxx reflect the increasing frequency of lake map symbols that depict each unquantified class.			

Fyke netting at ice-out targeted northern pike, walleye, and muskellunge. In late spring 2018 when water temperature was 74-81°F, WDNR assessed bass and bluegill populations by electrofishing. Our fall 2017 netting effort specifically focused on black crappies. WDNR enforces fishing regulations across the four lakes and their connecting waters combined, defining the Pike Lake Chain as a single waterbody.

Walleye

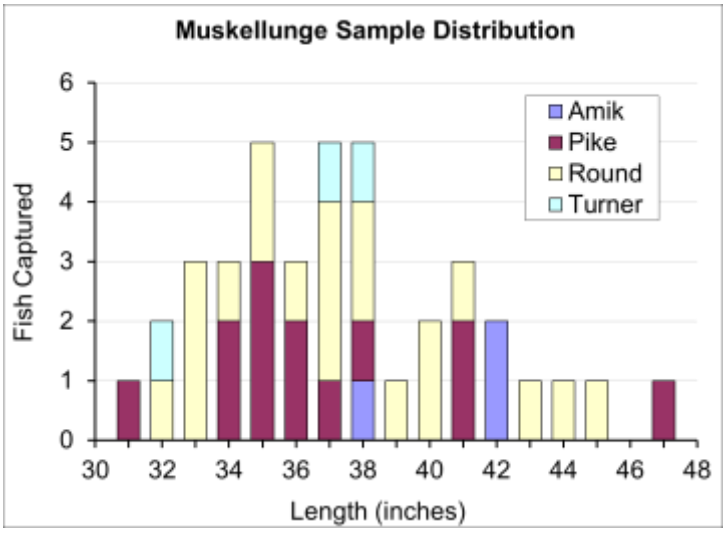




	Fyke Netting							Estimate	Goal	Electrofishing						
Lake	Count	Catch per net ≥10"	Length Range (inches)	Mean Length (inches)	% ≥ 15"	% ≥ 20"	% ≥ 25"	Adults per acre	Adults per acre	Count	Catch per mile ≥10"	Catch per hour ≥10"	Length Range (inches)	Mean Length (inches)	% ≥ 15"	% ≥ 20"
Amik	32	3.6	8.5-28.1	16.6	72	21	7	0.9	1 - 3	90	11	50	6.0-21.5	12.8	42	10
Pike	176	6.4	8.5-28.7	16.6	63	25	7	0.9	2 - 4	252	14	30	5.5-17.0	10.2	11	0
Round	654	24	5.6-28.3	13.6	25	5	1	2.1	4 - 6	931	107	237	5.0-18.0	10.2	2	0
Turner	31	3.8	9.4-25.8	17.7	80	27	3	1.0	2 - 4	157	41	88	5.5-24.0	12.0	33	5
Combined	893	13	5.6-28.7	14.4	36	10	3	1.4	1 - 6	1430	39	97	5.0-24.0	10.6	11	2

With fyke nets set at ice-out we captured, marked, and released spawning walleyes. The ratio of marked to unmarked walleye in our subsequent electrofishing survey yielded an approximation of the number of adults in the population. Estimated walleye density (adults per acre) fell short of our goals in the *2015 Fishery Management Plan—Pike Lake Chain of Lakes*, but their size distribution should

satisfy most anglers. Walleyes from early spring fyke nets in Round Lake met our chain-wide expectation to have 20 – 40% at least 15" long. Higher proportions of walleyes 15 and 20" or longer from spring nets in Amik, Pike, and Turner lakes could reflect lower-than-average rates of recruitment noted in recent years. Our fall 2018 electrofishing capture rates of 20, 43, and 17 fingerlings per mile indicated that walleye produced a year class of natural recruits in Pike, Round, and Turner lakes in 2018, but not in Amik Lake where we caught only 0.8 fingerling/mile. Ring counts on scales or sectioned dorsal spines showed that young walleye of all sexes combined grew at a slower-than-average rate in the Pike Lake Chain. Walleyes grew to 9.2" in 2 growing seasons, to 11.0 – 12.7" in 3 years, and to 13.8" by age 4, trailing the regional average lengths by 0.4", 0.5 – 0.7", and 0.9" at those ages. Older walleyes grew faster, reaching 16.4" in 5 years, 17.9" at age 6, 19.4" at age 7, and 21.0" at age 8 and bettering the regional average lengths by 0.1, 0.1, 0.4, and 1.0" at ages 5 – 8. In general, growth of walleyes in Amik and Turner lakes was slightly better than in Pike and Round lakes. The oldest and largest walleye in our sample was a 28.7-inch female from Pike Lake with an estimated age of 15 years. Anglers may keep 3 walleyes of any length, but only one can be over 14". Two creel clerks counted and interviewed anglers to estimate fishing pressure, catch, and harvest in the 2018 – 2019 fishing season. Across the entire Chain, open-water anglers caught 4,163 walleyes and kept 1,308 in 10,343 hours of fishing effort directed toward walleye. In winter Pike Lake anglers caught 22 more walleyes and kept 9 in 260 hours of walleye fishing, but in Round Lake 162 hours of icefishing effort yielded no walleyes. Lack of safe and adequate access prevented us from completing winter creel surveys on Amik and Turner lakes, and after January 2019 deep snow and slush made icefishing difficult across much of northern Wisconsin. Of the four lakes, Round Lake had the highest walleye density, catch, harvest, and fishing effort.



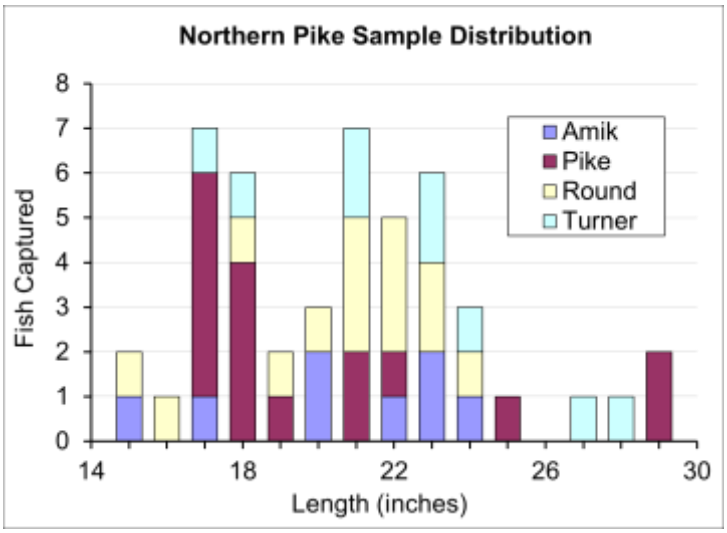
Muskellunge

	Fyke Netting					
Lake	Count	Catch per net ≥ 30"	Length Range (inches)	Mean Length (inches)	% ≥ 38"	% ≥ 42"
Amik	3	0.4	38.0-42.0	40.7	100	67
Pike	14	0.5	31.8-47.0	37.2	31	8
Round	20	0.8	32.5-45.0	37.8	45	15
Turner	3	0.4	32.5-38.5	36.0	33	0
Combined	40	0.6	31.8-47.0	37.6	44	15

Water temperatures in our early spring fyke net survey were largely within the optimal range of muskellunge spawning activity (50-55°F), so we believe our spring netting sample adequately characterizes adult musky abundance and size structure. WDNR stocks muskellunge into Pike, Round, and Turner lakes at a rate of 0.25 large fingerling per acre in odd-numbered years. Our fyke netting catch rates were comparable to other musky populations sustained by a combination of stocking and natural reproduction. In recent years fall electrofishing captured several wild fingerlings that did not have the larger size or the fin clip that identified fingerlings with hatchery origin. A 35.7-inch male musky with a uniquely-coded tag gained 2.8" in two growing seasons. Immature muskies grow faster, but at variable rates. A 19.1-inch musky gained 6.4" in 2 years, and an 18.7-inch fish gained 5.7" in 3 years. Anglers on the Pike Lake Chain spent an estimated 14,322 hours fishing for musky, catching 429, but harvesting only 3 in May through October 2018.

Northern Pike

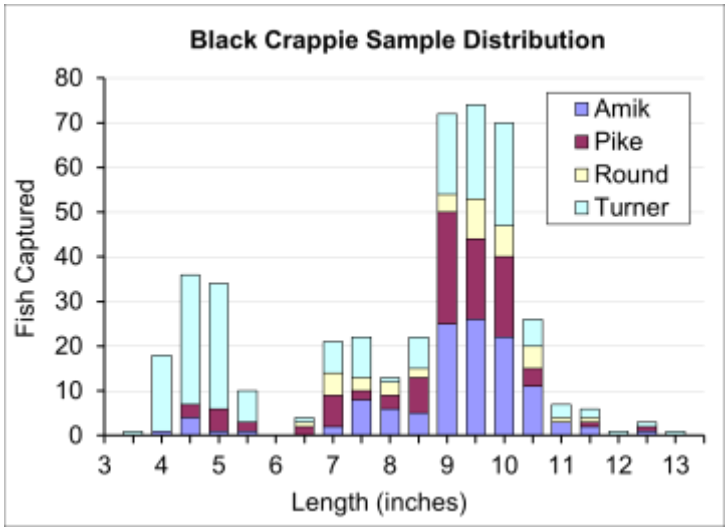
Lake	Fyke Netting					
	Count	Catch per net ≥ 14"	Length Range (inches)	Mean Length (inches)	% ≥ 21"	% ≥ 28"
Amik	8	1.0	15.5-24.5	21.0	50	0
Pike	17	0.7	17.0-29.5	20.6	38	13
Round	1	0.6	15.9-24.8	21.0	64	0
Turner	9	1.1	17.5-28.3	22.9	78	11
Combined	50	0.7	15.5-29.5	21.2	55	6



Fyke netting just after ice-out yielded only 50 northern pike at catch rates that indicated very low population abundance in each lake. Low pike abundance may allow natural recruitment to the muskellunge population, but low pike density did not produce many large fish. Only Pike and Turner lakes had northern pike longer than 24". The open-water creel survey projected that anglers took 163 pike from Amik, Pike, and Round lakes where harvested pike averaged 19.5 – 22.4". In winter anglers caught 22 northern pike in Pike Lake in 33 hours, but they kept none. On Round Lake ice fishermen targeted pike for 19 without success.

Black Crappie

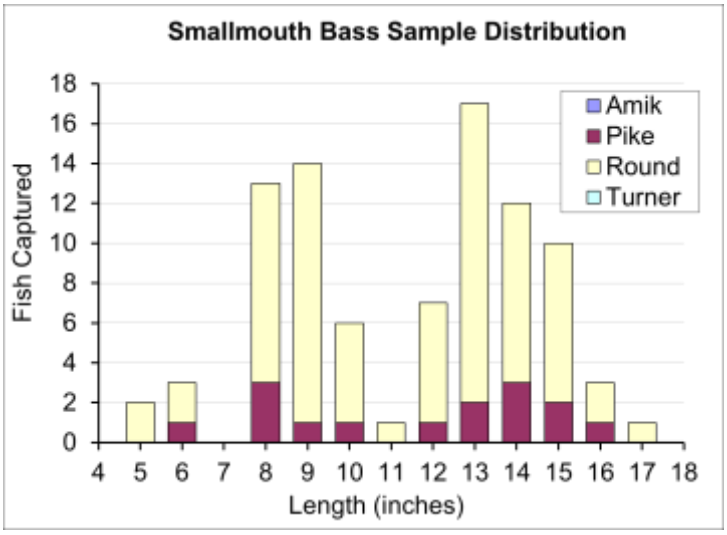
Lake	Fall 2017 Fyke Netting					
	Count	Catch per net ≥ 5"	Length Range (inches)	Mean Length (inches)	% ≥ 10"	% ≥ 12"
Amik	118	14	4.0-12.7	9.3	35	1
Pike	99	8.0	4.7-12.5	8.9	25	1
Round	41	3.4	6.8-11.9	9.3	34	0
Turner	183	17	3.8-13.0	7.4	27	2
Combined	441	9.7	3.8-13.0	8.4	30	1



Our catch rates of black crappies in fall fyke nets showed that the Chain's crappie population nearly attained our goal of 10 – 15 crappies 5" and longer per net-night chosen to represent the moderate abundance desired. And, crappies in all four lakes exceeded our size benchmark to have 15 – 25% in fall nets at least 10" long. Our measures of crappie population abundance and size structure were both slightly higher in fall 2011 when fyke nets captured 2 – 34 crappies per net-night, 39 – 46% were 10" and longer, and 2 – 4% were at least 12". Ring counts on ear bones extracted from 59 crappies 8.8 – 10.9" revealed that crappies needed 6 years to reach 9.4" in Amik and Pike lakes and 9.6" in Turner Lake, compared to the regional average of 10.1 inches at age 6. Age-7 and age-8 crappies were 10.1" long in Amik and Pike lakes and 9.8" in Turner Lake, contrasted with northern Wisconsin averages of 10.7 and 11.3" at those ages. Despite their slower-than-average growth, crappies in the Pike Chain live long enough to eventually attain the sizes that anglers like to keep. With nearly 16,000 angling hours crappies were the most sought-after species in the open-water creel survey, surpassing the effort anglers directed toward muskellunge and walleye in the Pike Lake Chain. From May 5 to October 31, 2018 anglers caught an estimated 22,580 crappies and kept about half, which averaged 10.0" long. In 494 hours of winter fishing effort, anglers caught 107 crappies and kept 81 from Pike Lake, but 72 hours of winter crappie fishing produced none from Round Lake. Special harvest regulations in effect since 2016 aim

to distribute the harvest more equitably among anglers and moderate the boom-and-bust cycles often seen in crappie abundance and good crappie fishing. Anglers may keep 25 panfish, but no more than 10 of any one species.

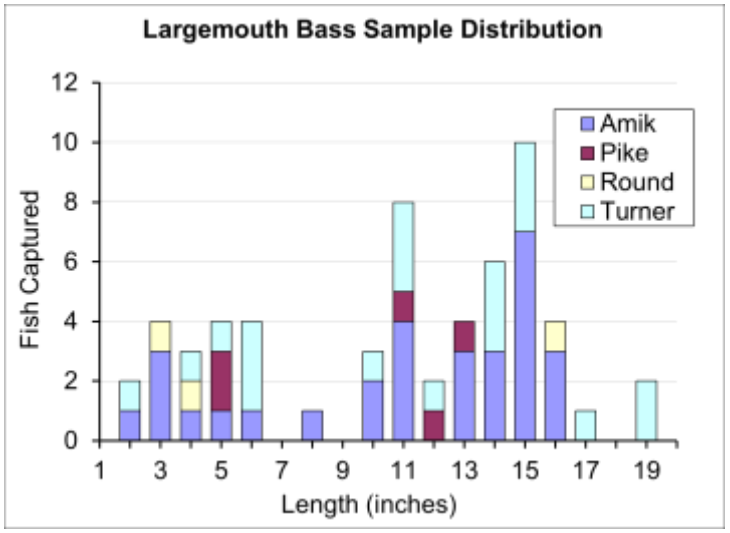
Smallmouth Bass



Our late spring electrofishing survey in Pike Lake yielded 15 smallmouth bass that ranged 6.8 – 16.0" and averaged 12.0". In Round Lake we caught 74 smallmouth bass ranging 5.6 – 17.2" and averaging 11.8". Catch rates of 7 and 37 smallmouth bass ≥ 7" per hour indicated low population abundance in Pike Lake and high abundance in Round Lake, where rocky substrate harbors crayfish, their favorite food. Legal-size bass ≥ 14" comprised 43% of our small sample in Pike Lake and 29% in Round Lake. Only one bass exceeded 17". Our measures fell outside the objective ranges that describe the desired population size structure and low to moderate density: a late spring electrofishing catch rate of 10 – 20 bass ≥ 7" per hour with 50 – 70% ≥ 14" and 10 – 20% ≥ 17". In Round Lake, the smallmouth bass population's abundance increased tenfold and its size structure diminished since our spring 2012 survey, when we caught only 3.6 bass per hour, 50% were legal-size fish ≥ 14", and 13% were 17" and longer. In the open-water creel survey anglers caught 890 smallmouth bass and harvested 56 that averaged 14.5" long.

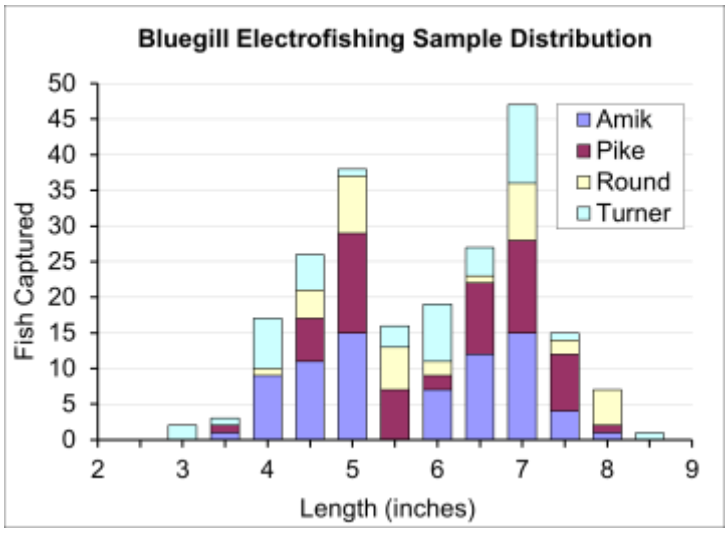
Largemouth Bass

Lake	Fall 2018 Electrofishing							
	Count	Catch per mile ≥ 8"	Catch per hour ≥ 8"	Length Range (inches)	Mean Length (inches)	% ≥12"	% ≥14"	% ≥15"
Amik	30	3.9	7.9	2.8-16.7	11.5	70	57	43
Pike	5	0.4	1.5	5.2-13.3	9.7	67	0	0
Round	3	0.1	0.4	3.5-16.4	8.1	100	100	100
Turner	20	4.8	8.3	2.9-19.8	11.8	71	64	43
Combined	58	1.8	4.4	2.9-19.8	11.3	71	56	41



Late spring electrofishing, our usual method for assessing bass population status, captured 3 largemouth bass 9.1 – 16.6" in Amik Lake and 5 in Turner Lake 10.6 – 16.9" long. They averaged 13.6 and 14.4" long, respectively, but our samples were too small to compare with the size objectives in the Fishery Management Plan. Electrofishing catch rates were 2.9 bass ≥ 8" per hour in Amik Lake and 4.2 per hour in Turner Lake, compared to our goal (10 – 20 bass/hour) for a low-density population that provides some angling diversity. Fall electrofishing surveys targeting young walleye incidentally captured larger samples of largemouth bass that are described in the table and chart above; however, comparisons with objectives are based on spring survey results. Open-water anglers fished 2,920 hours for largemouth bass, focusing 48% of the Chain's total largemouth bass fishing effort on Amik Lake where habitat favors bass survival and growth. They caught an

estimated 357 largemouth bass but kept only 9 that averaged 14.5". All harvested bass came from Round Lake where smallmouth bass were prevalent and largemouth bass had trace abundance.



Bluegill

Lake	Spring Electrofishing							
	Count	Catch per mile ≥ 3"	Catch per hour ≥ 3"	Length Range (inches)	Mean Length (inches)	% ≥ 6"	% ≥ 7"	% ≥ 8"
Amik	75	75	188	3.8-8.3	5.9	52	27	1
Pike	62	61	109	3.5-8.0	6.3	55	35	2
Round	37	37	86	4.3-8.4	6.3	49	41	14
Turner	44	48	94	3.1-8.6	5.9	57	30	2
Combined	218	55	117	3.1-8.6	6.0	53	32	4

In Pike, Round, and Turner lakes our late spring electrofishing capture rates were within or near the objective range (50 – 100 bluegills ≥ 3" per hour) that indicates the desired moderate bluegill density. But, only in Round Lake did bluegills attain and surpass our goal to have 5 – 10% at least 8" long. Round Lake had enough walleyes to exert enough predatory control on bluegill recruitment, whereas the other three lakes apparently lacked effective predators to keep bluegill numbers low enough for satisfactory growth. In the open-water creel survey anglers caught an estimated 8,498 bluegills and kept 2,290 in 6,217 hours fishing for them. Experimental harvest regulations, applied in 2016 to increase bluegill size, allow anglers to keep 25 panfish, but only 10 of any one species. If disappointing panfish size results from anglers selectively keeping the largest fish, then restricting harvest should lead to improvement. If instead ineffective predation is the cause for lower-than-desired bluegill size, and predator-prey interactions are ultimately limited by the availability of physical habitat that can produce and sustain walleye, then our size objectives for the bluegill population may be unattainable in Amik Lake, where habitat conditions clearly favor largemouth bass over walleye.

Yellow Perch

Our samples were inadequate to confidently describe perch status, but capture rates of 45, 56, and 2.6 perch ≥ 5" per net-night in early spring fyke nets point to moderately high population abundance in Amik and Pike lakes and very low abundance in Round Lake. Perch were not counted from spring netting in Turner Lake, and too few perch were measured from spring nets in any lake to reliably compare with our goals for 10 – 20% at least 8" and 1 – 2% at least 10" long. The 310 perch measured in 10 netting and electrofishing surveys on the Pike Lake Chain in 2017 – 2018 ranged 2.5 – 10.8" and averaged 6.0" long. Creel survey projections show that anglers caught 6,134 perch and kept 1,403 of the largest in 4,095 angling hours in spring, summer, and fall 2018. The creel clerk measured 67 perch that ranged 6 – 10.9" and averaged 8.5" long. In both Pike and Round lakes, 25% of 24 harvested perch that the clerk measured were 10" or longer.

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